Environment Canada Environnement Canada

Health Canada Santé Canada

Where Can I Find...?
REFERENCES for RESEARCH

books / videos / websites / keywords / journals / listserves / libraries

Last updated: March 2003

Disclaimer: Reference listings are provided as a guide only for research, and do not aim to be conclusive. The Community Animation Program (CAP) takes no responsibility for the accuracy or content of the references. The views and opinions expressed in the references are solely those of the author(s). However, CAP has attempted to provide the most educational, and informative references that are currently available on the topic.

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References for Research Series

A series of information guides on health & environment issues,
and organizational development.

Other editions in the series include:

Issues

- Climate Change
- Human Health & the Environment
- Water Quality and Wastewater

Organizational Development

- Fundraising
- Strategic Planning

Topics for ***References for Research***
Are developed at the request of community groups.
If your non-profit organization is working on a health and
environment issues and would like to find additional research sources,
please contact the Community Animation Program (CAP).

1-800-663-5755

The ***References for Research Series*** is produced by the:

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BACKGROUND INFORMATION

The purpose of this resource guide is to assist groups in researching water quality and wastewater (sewage) management issues.

Definitions

What is water?

Water is a basic element of life. It makes up the seas, lakes and rivers and is also the main component of all living matter. We all need pure, uncontaminated water to survive. However, many Canadians take water for granted because of its abundance and low cost. Little do we realize that the more water we use, the more wastewater we generate. The major sources of contamination in Canadian waters include natural sources from soil and rock formations; and human sources, such as sewage and industrial discharge; runoff from roads, lawns, farmland, parkland and landfill sites; leaking underground fuel storage tanks; septic tanks and the deposition of airborne pollutants. Water has the capacity to dissolve various substances and sometimes renders contamination virtually undetectable to the human eye. One of the keys to maintaining the quality of our water supply is to control our rate of consumption. Once we use water, its quality is impacted forever.

What is wastewater?

For thousands of years, humans have used the aquatic environment as a convenient sewer for flushing their wastes. Rarely do we stop and think that every time we flush the toilet or pour something down the drain, we create sewage. Sewage is treated in a variety of ways including sewage treatment at wastewater treatment facilities, by septic systems, or it can be straight piped into a receiving waterway. Sewage has a foul odor, contains harmful bacteria (coliform bacteria), suspended solids and chemicals that affect the environment. Water-borne diseases caused by bacteria, viruses and protozoa are the most common health-hazards associated with drinking water and recreational water in Canada[1]. Human and animal wastes are the main sources of microbial contaminants found in our drinking water. Infants, children, the elderly and people with weakened immune systems are highly susceptible to the effects of pathogenic bacteria. Wastewater effluent may also contain the following pollutants: pesticides, metals (aluminum, arsenic, lead, and uranium), organic compounds, fluoride, nitrates, radiation, pharmaceuticals and

thousands of other chemical contaminants. Using water wisely will reduce pollution and health risks; lower water costs, and extend the useful life of existing water supplies and waste water treatment facilities.

Keywords

When searching for water or wastewater information, some of these keywords might be useful:

Acid rain	Freshwater	Water borne (borne) diseases
Aquatic ecosystems	Groundwater	Water cycle
Beach closures	Ocean dumping	Water pollution
Bottled water	Polluted water	Water quality
Contaminated water	Pulp and paper mill effluent	Water quality in Atlantic Canada
Drinking water	Sewage	Wastewater
Farm run-off	Sewage management	Wetland recovery
Fecal (faecal) contamination	Water and health	Wetlands

LEGISLATION

Who Regulates Water and Wastewater?

Health Canada sets the guidelines for our drinking water. They have established more than 100 objectives for a host of contaminants. Although Health Canada sets the guidelines, drinking water is a provincial, territorial and municipal responsibility. These departments are expected to provide citizens with safe drinking water. It is also their responsibility to inform the public about pollution risks related to recreational uses of water. They do this by collecting and analyzing water samples and comparing the results to the Canadian drinking water quality guidelines to ensure whether or not the water is safe to drink or swim in. Provincial, territorial and municipal governments use the Canadian drinking water guidelines as a basis for setting drinking water objectives and standards. Water quality guidelines specify limits for substances and describe conditions that affect drinking water quality. Water quality objectives specify the concentrations of substances allowable in water bodies. Water has to meet all these objectives to pass the safety test.

Federal Legislation for Water and Wastewater

Canadian Environmental Protection Act (1999, c.33)
http://www3.ec.gc.ca/EnviroRegs/Eng/SearchDetail.cfm?intAct=1001

[1] Health Canada, Guidelines for Canadian Drinking Water Quality; Sixth Edition

Canada Marine Act (1998, c. 10)
The Canada Marine Act's objectives are to provide a high level of safety and environmental protection, to ensure that services are available at a reasonable cost, and to respond to local development priorities. http://laws.justice.gc.ca/en/C-6.7/18021.html

Canada Water Act (R.S. 1985, c. C-11)
This act provides for the management of the water resources of Canada, including research and the planning, and implementation of programs relating to the conservation, development and utilization of water resources. http://laws.justice.gc.ca/en/C-11/text.html

Coastal Fisheries Protection Act (R.S. 1985, c. C-33)
Act to protect coastal fisheries. http://lois.justice.gc.ca/en/C-33/32268.html

Department of Fisheries and Oceans Act (R.S. 1985, c. F-15)
http://laws.justice.gc.ca/en/F-15/44268.html

Disposal at Sea Regulations (SOR/2001-275)
http://www3.ec.gc.ca/enviroregs/eng/documents/sor-2001-275_ENG.cfm

Fisheries Act (R.S. 1985, c. F-14)
Act outlining the responsibilities between Environment Canada and the Department of Fisheries and Oceans Canada, for the administration and enforcement of the pollution prevention provisions of the Fisheries act.
http://www3.ec.gc.ca/enviroregs/eng/searchdetail.cfm?intAct=1017

International River Improvements Act (R.S. 1985, c. 1-20)
An act outlining the construction, operation and maintenance of international river improvements.
http://laws.justice.gc.ca/en/I-20/text.html

Ocean's Act (1996, c. 31)
Act respecting the oceans of Canada. http://laws.justice.gc.ca/en/O-2.4/82235.html

Provincial Legislation for Water and Wastewater

New Brunswick

Clean Environment Act (C-6)
http://www.gnb.ca/justice/acts/acts/c%2D06.htm

Clean Water Act (C-6.1 1989)
http://www.gnb.ca/acts/acts/c-06-1.htm

Marshland Reclamation Act (C. M-5)
http://www.gnb.ca/acts/acts/m-05.htm

Newfoundland and Labrador

Bill 44
An act outlining the control and management of water resources in the province of Newfoundland and Labrador. http://www.gov.nf.ca/hoa/bills/bill0144.htm

Environmental Control Water and Sewage Regulations made under the Environment Act (C. Nfld. Reg. 1078/96)
http://www.gov.nf.ca/hoa/regulations/rc961078.htm

Nova Scotia

Agricultural Marshland Conservation Act (Bill no.77, chapter 22 of the Acts of 2000)
http://www.gov.ns.ca/legi/legc/bills/58th_1st/3rd_read/b077.htm

Certified Public Drinking Water Supply Contractor
This certificate is needed by those who want to become a well driller, well digger or pump installer for public drinking water supplies.
http://www.gov.ns.ca/snsmr/paal/ENVIRO/paal434.stm

Environment Act (1994-995, c.1, s.1)
http://www.gov.ns.ca/legi/legc/statutes/environ1.htm

Municipal Plant/Facilities Approval: Water Works
Nova Scotia Department of Environment and Labour
This approval is required for anyone in Nova Scotia who wants to install:

a) raw water intake pumping facilities;
b) water treatment facilities;
c) water distribution facilities (including extensions).

http://www.gov.ns.ca/snsmr/paal/enviro/Paal171.stm

Municipal Waste Approval: Sewer
Nova Scotia Department of Environment and Labour
Applicable to anyone in Nova Scotia who wants to install:

a) sanitary and storm drainage collection systems;
b) sewage treatment plants and storm treatment facilities;
c) sewage sludge collection and treatment systems.

http://www.gov.ns.ca/snsmr/paal/enviro/Paal172.stm

On-site Sewage Disposal Systems Regulations (also made under the Health Act), as per sections 26, 27, 28, 66, 102, 110 of the Nova Scotia *Environment Act*.
http://www.gov.ns.ca/just/regulations/regs/envsewag.htm

Provincial Subdivision Regulations of the Municipal Government Act
Size requirements for lots serviced by on-site sewage disposal systems.
http://www.gov.ns.ca/just/regulations/regs/mgsubdiv.htm

Septic Tank Installer License
Nova Scotia Department of Environment and Labour
This license is required by anyone wanting to install septic systems (on-site sewage disposal systems) in Nova Scotia. http://www.gov.ns.ca/snsmr/paal/enviro/Paal177.stm

Wastewater or Water Treatment Plant or Collection Facility and Wastewater or Water Treatment Plant or Distribution Facility: Classification Certificate
This certificate is required for anyone wanting to own a wastewater treatment, wastewater collection, wastewater distribution, or a water treatment facility in Nova Scotia.
http://www.gov.ns.ca/snsmr/paal/enviro/Paal370.stm

Water Approval: Watercourse Alteration
Those who wish to use or alter a watercourse, or a water resource, or any natural body of water, through any of the activities listed below:

a) constructing or maintaining a culvert;
b) constructing or maintaining a bridge which is in the water course, or using equipment closer than 3 metres from the water course;
c) constructing or maintaining a causeway, wharf, weir, fishway or other instream structure;
d) removing material from a surface water course;
e) diverting a water course from its natural channel;
f) installing or maintaining fishing equipment, fishway, counting fence, fish habitat, improvement structure, aquaculture cage or any similar structure in a water course
g) dredging or any other modification of a surface water course;
h) installing or maintaining a pipeline, cable or other equipment in a surface water course;
i) placing rock or other erosion protection material in a surface water course;
j) any other alteration of a surface water course or the flow of the water.

http://www.gov.ns.ca/snsmr/paal/enviro/Paal181.stm

Water Resources Protection Act (Bill no.32, chapter 10 of the Acts of 2000)
http://www.gov.ns.ca/legi/legc/bills/58th_1st/3rd_read/b032.htm

- The Nova Scotia Department of Environment and Labour is in the process of developing **a provincial sewage management strategy**. To date a discussion paper has been released and public consultation conducted. Check it out at: http://www.gov.ns.ca/enla/rmep/strategy.htm

Wildlife Habitat and Watercourses Protection Regulations
These regulations will make guidelines for forestry operations mandatory on all lands that will provide for the protection of water quality, biodiversity and wildlife habitat.
http://www.gov.ns.ca/just/regulations/regs/fowhwp.htm

Prince Edward Island

Environmental Protection Act (C. E-9)
http://www.gov.pe.ca/law/statutes/pdf/e-09.pdf

Fisheries Act (CF-13.01)
http://www.gov.pe.ca/law/statutes/pdf/f-13_01.pdf

Water and Sewerage Act (C W-2)
http://www.gov.pe.ca/law/statutes/pdf/w-02.pdf

Municipal Legislation for Water and Wastewater

This is not a complete list of municipal legislation found in Atlantic Canada. It is however, a sample listing.

NEW BRUNSWICK

Bathurst

By-Law No. 963
A by-law respecting water and sewer services and charges in the city of Bathurst.
Available from the CAP resources library

Fredericton

By-Law No. S-8
A by-law regulating the discharge of water or wastewater into drains, storm and sanitary sewer systems in the city of Fredericton. *Available from the CAP resources library*

By-Law No. W-2
A by-law relating to the water and sewer systems in the city of Fredericton.
Available from the CAP resources library

By-Law No. W-3
A by-law respecting water rates and sewer rentals in the city of Fredericton.
Available from the CAP resources library

Miramichi

By-Law No. 52
A by-law of the city of Miramichi respecting water and sewerage systems and rates.
http://www.miramichi.org/cityhall/by-law_52.pdf

Moncton

By-law #P-202
A by-law relating to the regulation and control of the discharge of sewage and surface drainage into the sewage works of the city of Moncton.
http://www.moncton.org/search/english/CITYHALL/bylaws/P-202%20-%20Sewage%20Discharge.pdf

Saint John

A list of city by-laws is available at the common clerk's office and copies of specific by-laws are also available. Persons requiring copies of the city's municipal plan and zoning by-laws are asked to contact the city's Community Planning Department at (506)-658-2835.
http://www.city.saint-john.nb.ca/2.cfm?PageID=2-7-3

- **Water and Sewerage Services Information**
  http://www.city.saint-john.nb.ca/2.cfm?PageID=2-1-11

NEWFOUNDLAND AND LABRADOR

St-John's

St-John's by-laws are not available on-line. Please contact the Legal Department for further information.

Legal Department
City Hall
New Gower street
P.O. Box 908
St.John's, Newfoundland A1C 5M2
pH: (709) 576-8641
Email: jadams@city.st.johns.ns.ca

- **Water Services**
  http://www.st-johns.ca

NOVA SCOTIA

Halifax

Respecting Sewer Charges by-law (S-100)
http://www.region.halifax.ns.ca/legislation/bylaws/hrm/bls100.pdf

Wastewater Discharge/Respecting Discharge into public sewers by-law (W-101)
http://www.region.halifax.ns.ca/legislation/bylaws/hrm/blw101.pdf

RESOURCE MATERIALS

Quick Reads

FREE ITEMS

FROM ENVIRONMENT CANADA
Environment Canada has numerous publications on general water and wastewater issues. These are available to you at no cost. Many are available on Environment Canada's publication website at http://www.ec.gc.ca/water/en/info/pubs/e_pubs.htm. You may also order copies from the Inquiry Center at the address below. Since these publications are free, quantities of any title may be limited. Orders should be for ten titles or less.
For a complete list of free documents, see the website or contact:
Enquiry Center, Environment Canada
Telephone: 1-800-668-6767 Fax: (819) 953-2225
Ottawa, Ontario K1A 0H3
E-mail: enviroinfo@ec.gc.ca

Environment Canada – Water/Wastewater Publications
- A Primer on Fresh Water: Questions and Answers
- Nutrients and Their Impact on the Canadian Environment
- Nutrients in the Canadian Environment
- The State of Municipal Wastewater Effluents in Canada

- Water Fact Sheets
- Water: No Time to Waste- A Consumer's Guide to Water Conservation
- Wise Use of Water Brochures

Environment Canada – Water Topics
Available to download from Environment Canada's Internet site:
http://www.atl.ec.gc.ca/publications.html#water
- Clean Water-Life Depends On It!
- Groundwater-Nature's Hidden Treasure
- Shellfish and Water Quality
- Primer on Fresh Water
- Water, Art, and the Canadian Identity: At the Water's Edge
- Water Conservation-Every Drop Counts
- Water—Here, There and Everywhere
- Water—Nature's Magician
- Water—No Time to Waste
- Water—The Transporter
- Water—Vulnerable to Climate Change
- Water Works!

FROM HEALTH CANADA
Publications can be downloaded from Health Canada's Internet site at:
http://www.hc-sc.gc.ca/ehp/ehd/bch/water_quality/publications.htm
Publications Related to Drinking and Recreational Water
It's Your Health (Fact Sheet Series)
- Aluminum and Human Health
- Arsenic in Drinking Water
- Blue-Green Algae (cyanobacteria) and their toxins
- Drinking Water Guidelines
- Fluorides and Human Health
- Giardia and Cryptosporidium in Drinking Water
- Lead and Human Health
- Recreational Water Quality
- Water Chlorination
- Water Treatment Devices-for Disinfecting Drinking Water
- Water Treatment Devices-for the removal of Taste, Odour and Chemicals
- What's in your well?-A Guide to Well Water Treatment and Maintenance

(Other technical reports and general interest publications follow)

Health Canada – Water Quality Publications
- Arsenic in Drinking Water
- Bottled Water
- Chlorinated Water and Health Effects
- Drinking Water Away from Home
- Drinking Water Substances Priority List (Oct. 1999)
- Environmental Health Directorate
- Guidelines for Canadian Drinking Water Quality
- Water Quality Activities

- Well-Water Contaminants: Pesticide Exposure Assessment Study

Available to download from Health Canada's Internet site at:
http://www.hc-sc.gc.ca/english/search/a-z/w_x_y_z.html

Health Canada – Drinking water wells
http://www.hc-sc.gc.ca (use **drinking water wells** as the key word after entering the site)

FROM OTHER SOURCES

Agriculture and Agri-Food Canada – Prairie Farm Rehabilitation Administration (PFRA) Publications.
http://www.agr.gc.ca/pfra/publice.htm#fact

Before You Construct an On-Site Sewage System
http://www.gov.ns.ca/enla/emc/qpersons/index.htm (type in "**before you construct an on-site sewage system**" in the search box, when you enter the site)

Community Water and Wastewater Systems – Public Works and Government Services Canada, Real Property Services for Indian and Northern Affairs Canada, Technical Information Document. http://www.pwgsc.gc.ca/rps/inac/content/docs_technical-e.html

Environment Probe – Publications List and On-line Water and Wastewater publications.
http://www.environmentprobe.org/enviroprobe/evpub.htm

Fisheries and Oceans Canada – Available to download from Fisheries and Oceans Canada Website: http://www.dfo-mpo.gc.ca/regions/central/pub/fact-fait/fact-fait_e.htm

- **Publication:** Working around water fact sheet series.

Monitoring Surface Water Quality: A Guide for Citizens, Students and Communities in Atlantic Canada – A guide and compilation of relevant Canadian and American information on community-based water quality monitoring. Environment Canada, ISBN 0-662021530-3, 1994
http://www.atl.ec.gc.ca/community/acap/pdf/waterquality_e.pdf

Nova Scotia Department of Environment and Labour – Available to download from Nova Scotia's Internet site: http://www.gov.ns.ca/enla/pubs (type in water to see related publications)
Publications:

- Before you Construct a Water Well
- Guidelines for Monitoring Public Drinking water supplies
- Radon in Nova Scotia Drinking Water
- Reducing or Eliminating Trihalomethanes (THMS) in Drinking Water. What you Need to Know.
- Removing Uranium from Drinking Water Using Distillation
- Removing Uranium from Drinking Water Using Reverse Osmosis (RO)
- Save Water in your Home
- Taking Care of your Water Supply
- Uranium in Nova Scotia's Drinking Water
- Water and Wastewater Facility Regulations (Amended to NS Reg. 140/2000)
- Water Resources Protection Act

Nova Scotia Department of Environment and Labour (NSDEL) website:
http://www.gov.ns.ca/enla/pubs. Lists the QP1's (engineers) and QP11's (certified individuals who select septic systems) and installers who install the septic systems. This site also provides fact sheets (pdf. format):

- **A Change for Home Sewage Disposal Systems:** explains the privatization of the on site sewage disposal system program. *(type this title in the Search by Title Box, found in the above mentioned website)*

- **A Drinking Water Strategy for Nova Scotia** (A comprehensive approach to the management of drinking water) http://www.gov.ns.ca/enla

- **We all have a Part to Play. A Sewage Management Discussion paper for the province of Nova Scotia** http://www.gov.ns.ca/enla/pubs/partplay.pdf

Public Health Protection Septic System Program (publications)

- Public sewage disposal vital to your healthy environment
- Percolation test procedure

http://www.hlth.gov.bc.ca/hlthfile/httoc.html#w
This site also links you to the;

- **Maintenance & Operation of Sewage Disposal Systems**
  http://www.hlth.gov.bc.ca/hlthfile/hfile21a.html

Safe Drinking Water on First Nation Reserves: Roles and Responsibilities – Indian and Northern Affairs Canada, Publications and Research.
http://www.ainc-inac.gc.ca/ps/hsg/cih/ci/ic/wq/wqr_e.html

Save Water in your Home is a complimentary fact sheet to **Taking Care of Your Home Sewage Disposal System.** It is available at: http://www.gov.ns.ca/enla/pubs/sewage.PDF

Septic Systems: Operation and Maintenance of On-Site Sewage Disposal Systems
This publication explains how septic systems operate and how they can be maintained to prevent health risks and environmental damage. (1989, 8 pages-357K)
http://spectre.ag.uiuc.edu/~vista/abstracts/aSEPTIC.html

Water and Sewage Systems – Indian and Northern Affairs Canada, Policy Directive
http://www.ainc-inac.gc.ca/ps/hsg/cih/dl/wat_e.html

To Borrow

Wastewater Resource Materials

The following books can be borrowed from the CAP library. Call CAP's toll free line at 1-800-663-5755 or call (902) 426-2266 locally.

Alternative Systems for Small Communities and Rural Areas (booklet/poster)
Small Wastewater Systems, United States Environmental Protection Agency, 1992

Design Module Number 18: Septic Tanks (On-site Wastewater Treatment Plants: Septic Tanks)
Rural Systems Engineering

EPA Design Manual: Planning Wastewater Management Facilities for Small Communities
USEPA Research and Development, 1980

Is your Proposed Wastewater Project Too Costly?
Options for Small Communities, United States Environmental Protection Agency, 1984

Locating your Septic Tank (fact sheet)
Clean Annapolis River Project, 1996
Tips on how to locate your septic tank.

Management of Onsite Wastewater Treatment Systems (Chapter 2 photocopy)
USEPA Onsite Wastewater Treatment Systems Manual

The National Sewage Report Card (Number Two)
Rating the Treatment Methods and Discharges of 21 Canadian Cities
Sierra Legal Defense Fund Report, 1999

Solar Aquatics: Greenhouses That Grow Clean Water (report)
An overview of the design, technology, and maintenance of the septic treatment plants, 1994

Urban Water: Municipal Water Use and Wastewater Treatment – National Environmental Indicator Series
Environment Canada, SOE Bulletin No.98-4
The indicators in this bulletin are part of a national set of environmental indicators designed to provide a profile on the state of Canada's environment and measure progress towards sustainable development.

Wastewater Management Districts (information booklet)
Nova Scotia Departments of Municipal Affairs, Health and Environment, 1983
This material generates a wider interest in seeking flexible, cost-effective and reliable sewage disposal systems for the less densely developed areas of Nova Scotia.

Your Septic System: A Reference Guide for Homeowners (pamphlet)
Northern Virginia Planning District Commission, 1990

The following books can be borrowed, from the National Library System through the Queen

Care and feeding of...your septic tank (pamphlet)
Ontario Ministry of Environment and Energy's Environmental Education and Awareness Program. Get to know your system in just a few minutes.

Domestic Wastewater Management
United Nations Environment Program, 1988. ISBN 9280711776

Domestic Water Treatment in New Brunswick (pamphlet)
Water resource planning branch, New Brunswick Department of Municipal Affairs and Environment, 1987.

Guidelines for the approval & design of natural and constructed treatment wetlands for water quality improvement
Edmonton, Alberta: Alberta Environmental Protection, Environmental Assessment division, Standards and guidelines branch, 1998. ISBN 0778500179

Guidelines for the collection and treatment of wastewater
New Brunswick Environmental Protection Branch, 1987

Guidelines for sewage sludge utilization on agricultural lands
Prepared by Ontario Ministry of Agriculture and Food, Ontario Ministry of the Environment, Ontario Ministry of Health. Toronto, 1986

Onsite Wastewater Treatment and Disposal Systems
U.S.Environmental Protection Agency, Office of Water Program Operations, Office Research and Development Municipal Environmental Research Laboratory, 1980
Chapter 6 of the manual pertains to onsite treatment methods including septic systems.

Rural Septic Tank Sewage Disposal Systems (pamphlet type booklet)
Environment Canada, 1980
General information on septic tank disposal systems.

Study of Effects of Septic Tank Pumping Additions on Solid Waste Landfill Leachates: a summary
Canada. Environmental Impact Control Directorate, 1980. ISBN 0662511131
This study examined the effects of leachate and gas generation when solid municipal waste was co-disposed of with septic tank pumpings under varying climatic (rainfall) conditions.

Wastewater and Stormwater applications of wetlands in Canada
Pries, John A., North American Wetlands Conservation council (Canada), 1994.
ISBN 0662227670

Water quality management library
Technomic Publishing Company, Inc., ISBN 87762-930-7, 1992
This textbook explains and discusses many of the unit operations used for processing municipal sewage sludge.

Water Quality Resource Materials

The following books can be borrowed from the CAP library
Call CAP's toll free line at 1-800-663-5755 or call (902) 426-2266 locally.

Adopt-A-Stream Program: Community Based Volunteer Program
Nova Scotia Department of Fisheries and Aquaculture (Canada), 1994
Adopt-A-Stream is a program that can be used by community groups, schools, and youth groups to help improve living conditions for fish in Nova Scotia. This manual gives you the basic tools and guidelines for "adopting" a stream or any other waterway.

Canadian Chlorine Coordinating Committee (information folder), 2000
For more information, visit C4's website at http://www.cfour.org or contact Allan Jones, C4 Executive Director (905) 335- 9669, fax: (905) 335-3716, email: allan.jones@attcanada.net
To facilitate dialogue and promote coordinated action in Canada in order to bring about a balanced view of chlorine chemistry to enable society to make informed, science-based decisions on issues involving chlorine.

Case-control study of bladder cancer and chlorination by-products in treated water (Ontario, Canada) (photocopy)
Cancer Causes and Control, Will D. King and Loraine D. Marrett, 1996, 7, pp. 596-604
This case-control study in Ontario examined the relationship between bladder cancer and exposure to chlorination by-products in public water supplies.

Chlorine By-Products, Health Effects
(Binder filled with various information sources)

- Health and Welfare Canada: Guidelines for Canadian Recreational Water Quality
- Government Information sheets
- Water chlorination – Environmental impacts and health effects
- Chlorine based studies (cancer)
- Newspaper/Magazine articles
- General information on chlorinated water
- Greenpeace- Chlorinated Related Reports
- Water treatment methods

Citizens' Water Quality Monitoring Manual
Petitcodiac Watershed Monitoring Group (PWMG), prepared by Sandra Cashin, 1997
This manual is designed to assist PWMG volunteer monitors in conducting water quality monitoring of surface waters in the Petitcodiac Watershed.

Department of the Environment, Canadian Environmental Protection Act Section 8. (1) (B) Water Conserving Products (photocopy) ECP-22-90

Economic Instruments for Community-Based Water Quality Management, A case study of Pictou County, Nova Scotia
A research report submitted to Environment Canada, 1996
This is a summary version of the final report of a project dealing with the use of economic instruments in water quality management at the local level.

Fish Habitat Care (booklet)
Department of Fisheries and Oceans.

From Source to Tap – Protecting Drinking Water Quality in Small Systems"
10th Canadian National Conference and 1st Policy Forum on Drinking Water, 2002
Final conference program and abstracts.

Marine Plastic Debris: Waste Management Information Series
Environment Canada, ISBN 0-662-22333-0, 1994. For more information on the National Marine Plastic Debris Program, write to: Marine Environment Division, Environment Canada, Ottawa, Ontario,
K1A 0H3.

Give Water a Hand Action Guide: A youth program for environmental action
United States Department of Agriculture, 1992
Give Water a Hand offers a process which helps young people research needs in their homes, farms/ranches, schools or communities, and develop water-related environmental service projects to meet those needs.

- Give Water a Hand: Leader Guidebook (accompanies the Give Water a Hand, Youth Action Guide)

Groundwater in Atlantic Canada (pamphlet)
Environment Canada, ISBN 0-662-55282-2

Guidelines for Canadian Drinking Water Quality – sixth edition
Health Canada, ISBN 0-660-16295-4, 1996
The guidelines and recommendations listed herein are intended to apply to all drinking water supplies, public and private. Judicious use of the guidelines will result in the provision of drinking water that is both wholesome and protective of public health.

Monitoring Surface Water Quality: A Guide for Citizens, Students and Communities in Atlantic Canada
Canada-New Brunswick Water/Economy Arrangement, ISBN 0-662-21530-3, DSS
Cat. No. EN37-109-1994E

A National Survey of Chlorinated Disinfection By-Products in Canadian Drinking Water
Health Canada, ISBN 0-662-24295-5, Cat. H46-2/95-197E, 1995
This study was designed to determine the concentrations of halogenated disinfection by-products in Canadian drinking water supplies.
Copies of this report may also be obtained from: Publications, Health Canada, Communications and Consultation Directorate, Ottawa, Ontario, K1A 0K9

Oil, Water and Chocolate Mousse
Publication produced by a consortium of federal government departments led by Environment Canada, ISBN 0-660-125503-6, 1994
This booklet explains what happens when oil is spilled in our waterways, how we prevent oil spills, and what Canadians can do to limit the environmental damage oil spills cause.

Our Watershed, Our Responsibility, Annapolis Watershed Environmental Management Handbook
Annapolis Watershed Environmental Group, 1996
This document identifies relevant environmental issues in the Annapolis Watershed, develops actions that may be taken to address these issues through a process of establishing goals and

objectives, and identifies stakeholders who can take a leadership role in implementing these actions.

Protecting Offshore & Coastal Habitats (pamphlet)
Environment Canada, ISBN 0-662-63249-4, 1997.
For more information, please contact Environment Canada Atlantic Region, PO Box 1590, Sackville, New Brunswick, E0A 3C0, (506) 364-5044, fax (506) 364-5062

Risk Analysis: Routes of Chloroform Exposure and Body Burden from Showering with Chlorinated Tap Water (article) Vol. 10 no. 4
Wan K. Jo, Clifford P. Weisel, Paul J. Lioy, 1990

River Watch Newsletter
Official Publication of the Nova Scotia River Watch Program, Aug and Dec 1997
For more information, please contact: River Watch Newsletter, c/o Nova Scotia Department of Fisheries and Aquaculture, PO Box 700, Pictou, Nova Scotia, B0K 1H0

Shallow Wells and Precipitation Catchments Used to Supply Drinking Water in Canada
Health Canada, ISBN 0-662-18650-8, Cat. H49-64/1991E, 1991
This report represents informed estimates on the extent of use and the location of shallow wells used for domestic purposes by Canadians.
Copies of this publication may also be obtained from: Communications Branch, Department of Health, 19th Floor, Jeanne Mance Building, Ottawa, Ontario, K1A 0K9

Shellfish and Water Quality (pamphlet)
Environment Canada (date unknown)

Trihalomethanes (THMs)(photocopy)
Published in 1993.
THMs are formed in drinking water primarily as a result of chlorinating organic matter present naturally in raw water supplies.

UV Disinfection for Drinking Water
J. Cosman and H. Wright, IUVA News, Volume 2, Number 3 (2000), pp. 14-18
This paper evaluates UV, as a compliance technology for drinking water disinfecting.

The Undiluted Truth about Drinking Water
Health Canada, ISBN 0-662-202392, 1993

Water Conservation and Protection Project, Final Report
Clean Annapolis River Project, Prepared by Candy Clarke, 1998
This report details the activities involved in the water conservation and protection project, undertaken by the Clean Annapolis River Project (CARP) with funding from Environment Canada's **Action 21 Program** (Action 21 Program, now EcoAction Community Funding Program).

Water Conserving: Plumbing Fixtures (photocopy)
Environmental Choice, Government of Canada (date unknown)

Water: No Time To Waste: A Consumer's Guide to Water Conservation

Environment Canada, Second Edition, ISBN 0-662-23049-3, 1995
This guide is about water conservation, and what we can do to reduce the use of one of our most precious, yet undervalued, resources-water.

Wilderness Water: A guide to wilderness drinking water (pamphlet)
Health Canada, Minister of Supply and Services, ISBN 0-662-57441-9, 1991
To order copies contact: Communications Branch, Health Canada, Ottawa, Ontario, K1A 0K9

The following books can be borrowed from the National Library System through the Queen Square Library (902) 426-7219, http://ceres.ncr.ec.gc.ca

American Water Works Association-Manual of Water Supply Practices: Water Audits and Leak Detection *(Winnipeg Manitoba, Environment Library)*
American Water Works Association, 1999. ISBN 1-58321-018-0
The first step in leak detection and repair is to learn whether or not it is cost-effective. This is done by conducting a water audit. Chapter 2 gives step-by-step instructions and sample forms for conducting a comprehensive, system-wide audit. Instructions for figuring increased revenues from large-meter repair are also included, as are suggestions for correcting problems in the water system.

Canadian water quality guidelines for pesticides and industrial substances
Ottawa, ON: Canadian Association on Water Quality, 1994. ISBN 0969315015

Environmental Action-Water Conservation: Teacher Resource Guide
(Winnipeg Manitoba, Environment Library)
Dale Seymour Publications, 1998. ISBN 0-201-49538-4
The teacher resource book challenges students to investigate environmental issues and to actively contribute their ideas, time, and energy toward creating solutions at the local level in their schools, homes and communities.

Groundwater Remediation, Volume 8 *(Sexton Design and Technology Library)*
Water Quality Management Library, ISBN: 87762f-943-9, Technomic Publishing AG, 1992
This book reviews the sources of soil and groundwater contamination and the potential remediation technologies.

Guidelines for Canadian Drinking Water Quality, Sixth Edition *(Saint Mary's University Library)*
Prepared by the Federal-Provincial Subcommittee on Drinking Water of the Federal – Provincial Committee on Environmental and Occupational Health, 1996, ISBN: 0-660-16295-4, Cat: H48-10/1996E (Also available in Canada through your local bookseller or by mail from Canada Communications Group – Publishing, Ottawa, Canada K1A 0S9)

Hillsborough River Watershed, water-related activities (pamphlet)
Canada-Prince Edward Island Water Management Agreement, 1987.

Household Guide to Water Efficiency *(Dalhousie Library)*
Canadian Mortgage and Housing Corporation, Government of Canada, 2000
This guide will help you find ways of reducing water use in and around your home.
To obtain this publication in alternative formats, call 1-800-668-2642.

Human Activity and the Environment, 2000/ Statistics Canada, National Accounts and Environment Division, system of National Accounts
Ottawa: Statistics Canada, 2000. ISBN 0660181665

A National Survey of Chlorinated Disinfection By-Products in Canadian Drinking Water *(Saint Mary's University Library)*
Environmental Health Directorate, Health Protection Branch, ISBN: 0-662-24295-5
Cat. H46-2/95-197E, 1995
This study was designed to determine the concentrations of halogenated disinfection by-products in Canadian drinking water supplies.
Copies of this report can be obtained from Publications, Health Canada, Communications and Consultation Directorate, Ottawa, Ontario, K1A 0K9.

PEI Water Quality Interpretive Report 1999
Environment Canada, George Somers, Bruce Raymond, William Uhlman

Reflections on water: Canadian water resources association, 1947-1997
Mitchell, Bruce, Cambridge, ONCWRA, 1997. ISBN 1896513107

Seawater Intrusion in Coastal Aquifers, Guidelines for study, monitoring and control *(Dalhousie Library)*
Food and Agriculture Organization of the United Nations, ISBN: 92-5-103986-0, 1997
The increasing concentration of human settlements in coastal areas gives rise to excessive pressure on groundwater, resulting in seawater intrusion and related deterioration of the water quality. The scope of these guidelines is to draw attention to the problem of seawater intrusion into coastal aquifers and to present measures, both legal and technical, to be taken with the view to studying, monitoring, preventing and controlling seawater intrusion.

State of the debate on the environment and the economy: water and wastewater services in Canada
Ottawa: National Round Table on the Environment and the Economy (NRTEE), 1996.
ISBN 1895643465

THE HEALTH OF OUR WATER: Towards Sustainable Agriculture in Canada
Agriculture and Agri-Food Canada, Research Branch, D.R. Coote, L.J. Gregorich

The Undiluted Truth about drinking water
Ottawa, ON: Health Canada, c 1993. ISBN 0662202392

Water Conservation: every drop counts/ Environment Canada (pamphlet)
Canada. Environment Canada, 1992. ISBN 0662180801

Water Consumption and Sustainable Water Resources Management
(University of New Brunswick Libraries)
Organization for Economic Co-Operation and Development (OECD), 1998
This report presents the discussions and conclusions of the OECD workshop on sustainable water consumption, which was held in Sydney, Australia (1997). It examines progress made on a range

of key water policy issues and examines some of the more innovative attempts to put into practice a wider vision of integration.

The Water Crisis: Finding the Right Solutions *(Mt. St. Vincent University library)*
Julie Staufer, Black Rose Books, ISBN 1-55164-144-5, 1999
The water crisis examines the sources and effects of modern freshwater pollution and presents existing ecological technology, which may be implemented by business or by members of the public.

The Water Cycle: Nature's Recycling System (poster/pamphlet)
(Washington, D.C): Soil Conservation Service, U.S. Department of Agriculture: Water Environment Federation, 1993.

Water demand management in Canada: a state-of-the-art review
Donald M Tate, Ottawa: Environment Canada, Conservation and Protection, 1990.
ISBN 0662181336

Water demand management in New Brunswick municipalities
Moncton, New Brunswick, 1994

Water efficiency for your home: products and advice which save water, energy and money (pamphlet)
Woodwell, John C, Snowmass, CO: Rocky Mountain Institute, c 1991

Water Environment Research Magazine, Volume 74, Number 2
March/April 2002

Water hardness, Human health, and the importance of magnesium
Marier, John R, Ottawa National Research Council of Canada, 1979

Water in Crisis, A Guide to the World's Fresh Water Resources *(Saint Mary's University library)*
Pacific Institute for Studies in Development, Environment, and Security, Stockholm Environment Institute, Oxford University Press, ISBN: 0-19-507627-3, 1993
This book examines the world's fresh water resources; access to clean water and sanitation, the use of water for energy and so on.

Water Law in Canada: the Atlantic Provinces
La Forest, G.V., Ottawa, Information Canada, 1973

Water on Prince Edward Island – Understanding the resource knowing the issues
Environment Canada, Published by the PEI Dept. of Fisheries and Environment and Environment Canada

Water Quality Research Journal of Canada, Volume 37, No. 2, (2002)
ISSN 1201-3080

Water Wise: Bacterial water/analysis/PEI. Dept of Fisheries, Aquaculture and Environment
Prince Edward Island Department of Fisheries, Aquaculture and Environment, 2000

Water-wise tips for the lawns and gardens (pamphlet)
Environment Canada, Conservation and Protection, Environment Canada, Conservation and Protection, 1990

Water-wise tips for the summer season
Environment Canada, 1990

Books and Reports

Additional books and documents on general and emerging water and wastewater issues are listed below. Most of these books can be ordered online. For all others, contact your local bookstore or public library.

An Introduction to Water Quality Modeling
By editor A. James, hardcover, 311 pages, ISBN 0471923478 published January 1993 by John Wiley & Sons Canada, Limited. $60

Blue Gold: The Fight to Stop the Corporate Theft of the World's Water
By Maude Barlow & Tony Clarke, hardcover, 256 pages, ISBN 1565847318 published in April 2002 by New Press. $18.17

Clean Water: The Citizen's Complete Guide to Water Quality & Water Pollution Control
By author Kenneth M. Vigil, paperback, 198 pages, ISBN 1886792364, published in January 1996 by Columbia Publishing Company. $26.50

Constructed Wetlands for Water Quality Improvement by Gerald A. Moshiri, leather/fine binding, 656 pages, ISBN 0873715500, published in January 1999 by Lewis Publishers. $146.95

Don't Drink the Water (without reading this book) The Essential Guide to Our Contaminated Drinking Water and What You Can Do About It
By Lono Kahuna Kupua A'O, paperback, ISBN 096288829X, 2nd edition published May 1998 by Kali Press. $11.95

Every Drop for Sale: Our Desperate Battle over Water
By Jeff Rothfeder, hardcover, 256 pages, ISBN 1585421146, 1st edition published in October 2001 by JP Tarcher. $17.47

Field Manual for Water Quality Monitoring
By author Mitchell, Paperback, 336 pages, ISBN 0787237302, published in January 1997 by KendallHunt publishing company. $30.95

Fundamentals of Aquatic Toxicology: Effects, Environmental Fate, and Risk Assessment
By Gary M. R, paperback, 1115 pages, ISBN 1560320915, 2nd edition published in 1995 by Taylor and Francis. $105

Handbook of Drinking Water Quality (guide that provides the latest regulations and current issues in water quality)
By author John De Zuane, hardcover, 575 pages, ISBN 047128789X, published in January 1996 by John Wiley & Sons, Inc. $148.50

Handbook of Water Use and Conservation: Homes, Landscapes, Industries, Businesses, and Farms
By Amy Vickers, hardcover, 464 pages, published August 2001. $99.95

The Healing Energies of Water
By Charlie Ryrie, paperback, 160 pages, ISBN 1885203721, published in April 2000 by Charles Tuttle Co. $12.57

Safe to Drink? The Quality of Your Water
By Julie Stauffer, Paperback, 160 pages, ISBN 1898049149, New Futures Series, published June 2001 by New Society Publishers. $19.95

Tapped Out
By Paul Simon, paperback, 208 pages, ISBN1566492211, published in March 2002, by Welcome Rain Publishers. $11.20

The Holy Order of Water: Healing the Earth's Water…
By William E. Marks, paperback, 256 pages, ISBN 088010483X, published in October 2001 by Bell Pond Books. $18.95

The Water We Drink: Water Quality and its Effects on Health
By author Joshua Barzilay, Winkler Weinberg, William Eley, paperback, 192 pages, ISBN 0813526736, published in June 1999 by Rutgers University Press. $26.50

Water Quality Control Handbook
By author E. Roberts Alley, Hardcover, ISBN 0070014132, published in June 2000 by McGraw-Hill Book Company. $192.95

Water Quality; Processes and Policy
By author D. E. Walling, Author Stephen T. Trudgill, Hardcover, ISBN 0471985473, published September 1999 by John Wiley & Sons. $202.50

Water Quality and Treatment; A Handbook of Community Water Supplies
Hardcover, 1232 pages, ISBN 0070016593, 5th edition Published in October 1999 by McGraw-Hill Book Company. $192.95

Water: The Fate of Our Most Precious Resource
By Marq De Villiers, hardcover, 352 pages, ISBN 0618030093, 1st edition published January 2000 by Houghton Mifflin Co. $12

Water Wars: Privatization, Pollution and Profit
By Vandana Shiva, paperback, 156 pages, ISBN 089608650X, published in February 2002 by South End Printers. $11.20

Watersheds: A Practical Handbook for Healthy Water
By Gregor Gilpin Beck, paperback, 152 pages, ISBN 1552093301, published in June 1999 by Firefly Books. $13.97

Videos

CAP has a number of videos that focus on specific water and wastewater issues. You may borrow a video from the CAP library for one month by calling 1-800-663-5755 or (902) 426-2266 locally.

Revive our Rivers – The Meduxnekeag Story (8-min)
Motivating You to Make a Difference in a Stream or River in Your Area…

Septic System Maintenance – Pure & Simple (with pamphlet) (19 min. 20 sec)
1995, Environment Canada Fraser River Action Plan.
Simple step by step guide to septic system maintenance and trouble-shooting.

Troubled Waters- A Harbour at Risk
(Lunenburg) Bluenose Atlantic Coastal Action Program, 1999
The Impact of Coastal Pollution.

Water Conservation: the wave of the future (38 min, 55 sec)
Kitchener, On: Barbara Anderson, Lucy Keating in co-operation with Rogers Cable TV, 1988.

Journals

The latest scientific research is often published in journals. Thousands of journals are currently in publication worldwide. Many are now available on-line and are referred to as electronic journals.

Catchword Journal
http://figaro.catchword.com/index.htm
This site provides journals that are focused on water-related topics.

- Journal of Water Resources Development
- Waterlines
- Aquatic Ecosystem Health and Management
- Society and natural resources
- Ocean Development and International Law
- Coastal Management

Environmental Expert.com Magazines
http://www.environmental-expert.com/magazine/water.htm

Water Environment Federation Journal
http://www.wef.org/periodicals

Water Quality Research Journal of Canada – Canadian Association Journal of Canada
http://www.cciw.ca/wqrjc

- Surface and groundwater quality
- Polluted precipitation
- Wastewater treatment processes
- Drinking water treatment processes
- Laboratory tests of properties of chemicals which provide info on their aquatic fate and effects

- Bioaccumulation of contaminants in and from polluted aquatic ecosystems
- Aquatic ecotoxicology
- Fate of contaminant modeling in aquatic ecosystems
- Review articles of water pollution situations or fields of research
- Strategies and policies related to water pollution control

Water Science and Technology Journal
http://www.iwaponline.com/wst/toc.htm

WEBSITES

There are numerous websites containing current information on water quality and wastewater management issues. Here is a sampling:

Water Related Websites

ATLANTIC PROVINCES

New Brunswick

City of Saint John-A strategic direction for water and wastewater in Saint John – This document is a community plan for the work-required being successful in water and wastewater management, by 2014. http://www.cityofsaintjohn.com/downloads_static/WWStratDir.pdf

New Brunswick Environment and Local Government – This site contains water publications:
- A coastal areas protection policy for New Brunswick.
- Waste disposal from pleasure craft.
- Waste reduction and diversion. An action plan for New Brunswick.
- The water classification regulation-fact sheet.
- Well field guide

http://www.gnb.ca/0009/0010-e.asp

Water and Sewer information for the City of Moncton
http://www.moncton.org/search/english/Nwatermenu.htm

Newfoundland and Labrador

Agriculture and Agri-Food Canada (Water quality and use) – One of their initiatives is to fund the Newfoundland farm well stewardship program, designed to enhance water quality, conserve its resources and minimize the negative effects of agriculture inputs like fertilizers and pesticides. http://www.agr.gc.ca/policy/environment/eb/public_html/ebe/water.html

Government of Newfoundland and Labrador Community Water and Wastewater – This section of the site related to the review and approval of the design of public water supply and wastewater systems. http://www.gov.nf.ca/env/env/waterres/water%26wastewater.asp

Government of Newfoundland and Labrador Water Resources Management – The Government of Newfoundland's objective is to administer various acts as they relate to the allocation of water, stream alterations, protection of water supply areas, licensing of well drillers and other aspects of water resource management.
http://www.gov.nf.ca/env/ENV/water_resources.asp

Newfoundland's tap water potentially dangerous: Test – News article By Michael Macdonald: Canadian Press. http://www.canoe.ca/AllAboutCanoesNewsJan00/000110_nf.html

Nova Scotia

Bedford Institute of Oceanography
http://www.mar.dfo-mpo.gc.ca/science/ocean/home.html

Genuine Progress Index for Atlantic Canada – Press release; Nova Scotia drinking water improves; rivers, lakes, coastal waters decline. http://gpiatlantic.org/pr_waterquality.shtml

Nova Scotia Agriculture and Fisheries – Information Archive: An assessment of the impact of manure application on water quality.
http://www.gov.ns.ca/nsaf/rs/greenplan/waste/water/034.htm

Nova Scotia Departments of Environment and Labour – ***Clean water watch*** must be typed into the search engine box after having entered the site. http://www.gov.ns.ca/enla/rmep/other

Water Wisdom-The Water Cycle
http://www.gov.ns.ca/enla/rmep/waterwis.pdf

Prince Edward Island

Agriculture and Environmental Resource Conservation Program in PEI – This is a three-year program to assist farmers in making their farm operations more productive and sustainable, while achieving compliance with environmental, protection legislation. (Ex: by the year 2003, all watercourses in PEI will be inaccessible to livestock, thereby helping to maintain and improve the quality of the marine environment). http://www2.gov.pe.ca/af/aerc/index.asp

Government of Prince Edward Island

Fisheries, Aquaculture and Environment – This division is responsible for the management, protection and enhancement of the Province's groundwater, inland surface water, coastal estuaries and programs related to the management of coastal sand resources. It also regulates water and sewer infrastructure. http://www.gov.pe.ca/fae/wr-info/index.php3

CANADIAN WATER GROUPS AND ASSOCIATIONS

Atlantic Coastal Zone Information Steering Committee – A guide to coastal information in Atlantic Canada. http://is.dal.ca/~mbutler/aczisc

Bay of Fundy Ecosystem Partnership – The Bay of Fundy Ecosystem Partnership facilitates and enhances communication and co-operation among all citizens, governments and organizations interested in understanding sustainability using and conserving the resources, habitats and ecological processes of the Bay of Fundy. http://www.auracom.com/~bofep

Canadian Association on Water Quality (CAWQ) – CAWQ is an organization of scientists, engineers, technologists, administrators, and students engaged or interested in research on water quality or on the control or treatment of water pollution. http://www.acqe.ca

Canadian Council of Ministers of the Environment (CCME) – CCME provides Canadian environmental quality guideline updates which include summary guidelines for Canadian drinking water quality and Canadian water quality guidelines for the protection of aquatic life. http://www.ccme.ca

Canadian Environmental Law Association (CELA) – The CELA is a non-profit, public interest organization, which uses existing laws to protect the environment and to advocate environmental law reforms. http://www.cela.ca/water/water.htm

Canadian Water Resources Association (CWRA) – CWRA is a national organization of individuals and organizations interested in the management of Canada's water resources. http://www.cwra.org

Canadian Water and Wastewater Association – The Canadian water and wastewater association was established to represent the common interest of Canada's municipal water and wastewater systems. http://www.cwwa.ca

- **Water Awareness**
  Safe Clean Water. http://www.cwwa.ca/bluethmb.htm

Canadian Wildlife Federation – This site will explore oceans (Oceans…Closer than you think). http://www.cwf-fcf.org/pages/oceansday00/top

CEPA-Environmental Registry – The Canadian Environmental Protection Agency Registry is a comprehensive source of public information relating to activities under the Canadian Environment Protection Act, 1999 (CEPA, 1999). http://www.ec.gc.ca/ceparegistry

Ducks Unlimited Canada – Water quality and our vanishing wetlands. http://www.ducks.ca/home/walkrton.html

Environmental Conservation Branch/Canadian Wildlife Services Atlantic Region – This site explores ecosystems, water and wildlife. http://wwwi.ns.ec.gc.ca/internal/ecb/eqsreport.htm

Environmental Protection Agency – This site provides drinking water resources and information. http://www.epa.gov/ebtpages/water.html

National Environmental Services Center – The national drinking water clearing house, is helping small communities by collecting, developing and providing timely information relevant to drinking water issues. http://www.nesc.wvu.edu/ndwc

Natural Resources Defense Council (NRDC) – NRDC uses law, science and support of more than
500, 000 members nationwide to protect the planet wildlife and wild places and to ensure a safe and healthy environment for all living things. http://www.nrdc.org/water/default.asp

National Water Research Institute (NWRI) – The NWRI has a research program that provides a sound basis for actions to sustain our natural resources and freshwater ecosystems. http://www.nwri.ca/nwri.html

Pollution Probe

- Pollution Probe is a Canadian environmental organization that; defines environmental problems through research; promotes understanding through education; presses for practical solutions through advocacy. http://www.pollutionprobe.org

- Pollution Probe also released a new Primer on safe drinking water, at the Managing Shared Waters conference held in Hamilton, June 2002. The Primer, is available at: http://www.pollutionprobe.org/Publications/Index.htm

Safe Drinking Water Foundation – The purpose of the safe drinking water foundation is to find treatment and preventative solutions to make surface and groundwater safe for human consumption in rural areas of the world. http://safewater.org/index.htm

Sierra Legal Defense Fund – The Sierra Legal Defense Fund is a non-profit environmental law organization that provides free legal services to the environmental community in Canada. http://www.sierralegal.org/water.html

The Blue Planet Project – International effort begun by the council of Canadians to protect the world's freshwater from the growing threats of trade and privatization. http://www.canadians.org/blueplanet/index2.html

United Nations and Sustainable Development – This site assesses the freshwater resources of the world. http://www.un.org/esa/sustdev/freshwat.htm

World Water Council – The world water council mission is to promote awareness of critical water issues on all levels, including the highest decision-making level, to facilitate efficient conservation, protection, development, planning, management and use of water in all its dimensions on an environmentally sustainable basis for the benefit of all life on earth. http://www.worldwatercouncil.org

World Water Day (WWD) – WWD is pivotal in focussing attention on the need to address the problems related to drinking water supply; increase public awareness about the importance of conservation, preservation and protection of water resources and drinking water supply; increase governments, international agencies, non-governmental organizations, and private sector participation and cooperation in organization of WWD.
http://www.worldwaterday.org/index.html

GENERAL WATER INFORMATION SITES

American Boating Online – This site explores clean boating and environmental stewardship.
http://www.americanboating.org/clean.htm

Doulton/Water International Inc., Presents Water Research Links – This page is dedicated to drinking water research, water research, water information, training, governments, health, USA, Canada, reports, education, water testing, and… http://www.doulton.ca/research.html

Drinking Water Resources – This website was developed to provide a comprehensive resource for anyone searching for information about the safety and quality of their drinking water.
http://www.cyber-nook.com/water/index.html

Elements – Online Environmental Magazine – Elements offers a wide spectrum of environmental information. http://www.elements.nb.ca

Environment Canada's Environmental Priority- Clean Water.
http://www.ec.gc.ca/envpriorities/cleanwater_e.htm

EnviroZine: Environment Canada's On-line Newsmagazine – Source to tap: Protecting Canada's Water. http://www.ec.gc.ca/EnviroZine/english/issues/22/feature1_e.cfm

EPA: Office of Water (wetlands, oceans, and watersheds)
http://www.epa.gov/owow

From Source to Tap: The Multi-Barrier approach to safe drinking water – This short position paper outlines the elements of a multi-barrier approach, which would help ensure Canadian drinking water supplies are kept clean, safe and reliable for generations to come.
http://www.hc-sc.gc.ca/ehp/ehd/bch/water_quality/source-to-tap.pdf

Fundy Forum – The Fundy Forum supports efforts that enhance the health of the Bay.
http://www.fundyforum.com

Global Program of Action for the Protection of the Marine Environment from Land-Based Activities (GPA) – The GPA is designed to be a source of conceptual and practical guidance to be drawn upon by national and/or regional authorities for devising and implementing sustained action to prevent, reduce, control and/or eliminate marine degradation from land-based activities.
http://www.gpa.unep.org

Gulf of Maine Council on the Marine Environment – The Gulf of Maine Council on the Marine Environment fosters cooperative actions within the Gulf of Maine watershed to preserve our common heritage and encourage sustainable resource use for present and future generations. http://gulfofmaine.org

North Carolina State University: Water Quality and Waste Management – This site provides water quality and waste management publications.
http://www5.bae.ncsu.edu/programs/extension/publicat/wqwm/water.html

The Christian Science Monitor – Troubles bubble under the sea. This site explores the rapid decline in marine life and the combined effects of a wider range of human activities on ecosystems and entire seas. http://www.csmonitor.com/durable/1997/09/10/intl/intl.2.html

WATERSHEDSS – This site is an educational component, containing detailed information and references on non point source pollution and pollutants.
http://h2osparc.wq.ncsu.edu/index.html

GROUND WATER

Assessing the Risk of Groundwater Contamination from Hazardous: Waste Management
A worksheet designed to help farmers assess any drinking water contamination risks.
http://muextension.missouri.edu/xplor/envqual/wq0655.htm

Children's Water Education Council – Groundwater Basics
http://www.cwec.ca/eng/GWBasics/GWBasics.htm

Fundamentals of Physical Geography – Online glossary of Terms: Introduction to Hydrology.
http://www.geog.ouc.bc.ca/physgeog/contents/8m.html
Groundwater Nature's Hidden Treasure: Environment Canada
http://www.ns.ec.gc.ca/udo/trea.html

Groundwater Studies Group: University of New Brunswick
http://www.unb.ca/civil/hydro/water.htm

Ground Water Links – This site deals specifically with groundwater. It links you to numerous groundwater information sites. http://chppm-www.apgea.army.mil/gwswp/GWLinks/gh2o.htm

Www.Groundwater.Protection
http://ehfc.ca/pdf/gwater.pdf

MTBE, PETROLEUM CONTAMINATION AND SITE REMEDIATION

Atlantic Risk Based Corrective Action Process (RBCA) Newsletter – The Atlantic RBCA provides consistent, effective and achievable standards to protect people and the environment, based on assessment and management of risks.
http://www.atlanticrbca.com/eng/bottom_introduction.html

Could MTBE in Groundwater become the DDT of the 21st century?
http://www.web.net/nben/envnews/bytes/articles/mtbe.htm

Environment Canada: Aquatic Ecosystem Remediation Project – This site explores how to form a biobarrier to treat and contain petroleum contamination.
http://www.nwri.ca/aemrb/aerp.html

Environmental Research Advisory Council – Project Update: Plant uptake and degradation of process chemicals and hydrocarbons, which helps determine the fate of petroleum hydrocarbons and process chemicals in wetland plants. http://www.ptac.org/env/dl/envp0109.pdf

MTBE in Groundwater – British Columbia Fact Sheet
http://wlapwww.gov.bc.ca/wat/gws/mtbe/MTBE-Sept2001.pdf

The Effects of Gas Stations on the Surrounding Ecosystems
http://www.bishops.ntc.nf.ca/science/biology/jilljess/page2.html

OCEANS, FRESHWATER, SURFACE WATER

Alberta Agriculture, Food and Rural Development – Introductory guide to surface water quality monitoring in Agriculture. http://www.agric.gov.ab.ca/sustain/water/final_wq_guide.html

Canadian Coast Guard Central and Arctic region.
http://www.ccg-gcc.gc.ca/cen-arc/home-accueil_e.htm

Environment Canada- Freshwater Website
http://www.ec.gc.ca/water/e_main.html

Environment Canada- Marine Debris in Canada
The aim of this site is to show people, not only the problem of marine debris, but also how we can all help alleviate the situation. http://www.ec.gc.ca/marine/debris/homeeng.htm

Freshwater, Ecology and Pollution – This site provides general information on water (water cycle, living things in water, treatment of polluted water, ecosystems: wetlands, etc)
http://www.stemnet.nf.ca/CITE/water.htm

Freshwater Website – This site provides information on freshwater and the foreseeable global water shortages to come. http://www.freshwater.net

Green Boating Program – This site provides you with a 16-page guide with helpful information and tips to green boating. http://www.georgiastrait.org/cleanboatingprogram.html

Maritimes Region Oceans and Environment Branch – This branch has been established to support the Department's Oceans mandate, and to develop and implement regional oceans and environmental programs and activities. http://www.mar.dfo-mpo.gc.ca/oceans/index.html

Oceans Canada – Was designed to provide Canadians with a broad overview of ocean issues, activities and programs, from the Federal Government and beyond.
http://www.dfo-mpo.gc.ca/oceanscanada

Ocean Net – Ocean Net is an action-oriented, grass roots, non-profit organization. They implement a series of environmental initiatives, which include programs for the location and retrieval of lost fishing nets. http://www.oceannet1.com

POLLUTION LOCATORS

Environment Canada – Canadian pollution prevention information clearinghouse is an internet-based tool designed to link Canadians to pollution prevention information and to help them practice it and develop pollution prevention plans. http://www3.ec.gc.ca/cppic/index.htm

Government of Canada (Canada's National Program of Action for the protection of the marine environment from land-based activities (NPA)) – The NPA is a national program to prevent marine pollution and to protect coastal habitat from land-based activities. http://www.ec.gc.ca/marine

Pollution Watch – Pollution Watch provides information about the chemicals that manufacturing facilities (throughout Canada) release in your community. A very interesting site. http://www.scorecard.org/pollutionwatch

WATER AND HEALTH RELATED ISSUES

Agriculture and Agri-Food Canada: The Health of our Water
http://res2.agr.ca/research-recherche/science/healthy_water/ei.html

Backgrounder on Chloramines
http://www.ec.gc.ca/CEPARegistry/subs_list/Chloramines_E.pdf

Division of Parasitic Diseases – The division of parasitic diseases plays a vital role in investigating numerous parasitic diseases to help preserve public health both domestically and internationally. http://www.cdc.gov/ncidod/dpd/default.htm

Doulton Drinking Water Web site – This site provides health and drinking water topics. http://www.doulton.ca/health.html

Environment Canada – Report on threats to sources of drinking water and aquatic ecosystem health in Canada. http://www.cciw.ca/nwri/threats/intro-e.html

The Environmental Health Clearinghouse – The Environmental Health Clearinghouse provides substantial information and key documents on a variety of environmental health issues. http://infoventures.com/e-hlth/answers/qawater.html

Environmental Protection Agency, Office of Water (EPA) – This site provides information on ecoli in drinking water. http://www.epa.gov/safewater/ecoli.html

Growing Hazards in Drinking Water and Decreasing Drinking Water on a Worldwide Level – This site explores why our water is deteriorating and what we can and must do to protect our bodies. http://www.luckybear.com/water_hazards.htm

Have your Water Tested-Chromium 6 – Erin Brokovich (the movie and the reality) explores how chromium is found in drinking water as a result of industrial waste contamination. Hexavalent Chromium 6 is considered toxic. http://www.greatdreams.com/chrm6.htm

Health Canada – It's Your Health

- **Giardia and cryptosporidium in drinking water.**
  http://www.hc-sc.gc.ca/ehp/ehd/catalogue/general/iyh/giardia.htm

- **Canadian Drinking Water Quality Guidelines** – Canadian Drinking Water Quality Guidelines have been developed to ensure the protection of human health. These guidelines include maximum acceptable concentrations and aesthetic objectives.
  http://www.hc-sc.gc.ca/ehp/ehd/bch/water_quality.htm

- **Division of Foodborne and Enteric Disease** – Health Canada's mandate is to assess and reduce the risk of foodborne, waterborne and enteric disease in Canadians through national surveillance and targeted special studies. http://www.hc-sc.gc.ca/hpb/lcdc/bid/enterics

Life Water International – This site provides water and sanitation information (Christians helping the rural poor obtain safe water). http://www.lifewater.org/index.htm

Management of Agricultural drainage water quality: Chapter 7: Health issues related to drainage water management – "The interactions between drainage, water management and health." (Proper surface and subsurface drainage to remove excess water in a safe and timely manner plays an important role in controlling water related diseases)
http://www.fao.org/docrep/W7224E/w7224e0b.htm

The Bottled Water Web – This site provides information on health, taste and worth of bottled water. http://www.bottledwaterweb.com/qna.html

The Magnesium Web site – Magnesium, heart attacks and drinking water. This site explores the relationship between water hardness and mortality from cardiovascular disease, as people who drink water that is deficient in magnesium and calcium generally appear more susceptible to this disease. http://www.mgwater.com

Water Quality and Health Council – The Water Quality and Health Council mission is to promote science based practices and policies to enhance water quality and health by advising industry, health professionals, policy makers and the public. Their focus is primarily on drinking water. http://waterandhealth.org/drinkingwater/index.html

World Health Organization – This site has a variety of water and sanitation topics.
http://www.who.int/water_sanitation_health/index.html

WATER CONSERVATION

National Marine Conservation Areas (NMCA) – NMCA, are marine areas managed for sustainable use and containing smaller zones of protection. They include the seabed, the water above it and any species that occupy them. They may also take in wetlands, estuaries, islands and other coastal lands. http://parkscanada.pch.gc.ca/nmca/nmp_e.htm

Water Conservation – This site will give you handy links and factual tips about water conservation around your home and yard, without having to purchase commercial water saving devices. http://www.geocities.com/rainforest/7575/#bath

WETLANDS

Natural Resources Canada – The National Atlas of Canadian wetlands. "The wetland ecosystem". http://atlas.gc.ca/site/english/facts/index.html

Peat Moss and the Environment – Wetlands are dynamic ecosystems that continue to evolve and change over time. Peat moss resumes the most important functions of a bog by;

- Filtering water;
- Acting as a water collection basin;
- Accumulates carbon;
- Provides habitat for flora and fauna.

http://www.peatmoss.com/pm-me3.html

Tools for Working with Wetlands in Canada – "Wetkit", highlights resources to help Canadians better understand the vital link between wetlands and fish, and manage their activities to conserve fish habitat. http://www.wetkit.net/index.cfm

WHAT YOU CAN DO TO PROTECT OUR WATER

Environmental Petitions – Commissioner of the Environment and Sustainable Development This is a formal means for Canadians to bring their concerns about environmental issues to the attention of federal ministers and obtain a response to their concerns within 120 days. http://www.oag-bvg.gc.ca/environment (after entering English or French site, click on the Commissioner of the Environment and Sustainable Development box)

- **Call the Council of Canadians at 1-800-387-7177** to find out more about protecting Canada's Water.

- **Fax Action: Eco Fax** – Website that enables you to explore your concerns on a subject or issue, by writing to the heads of our government. http://www.web.net/nben/fax

- **To find out whether your tap water meets the guidelines,** contact the local water department or public health department and ask what measures are in place to ensure that your water is safe to drink.

- **To report an Environmental Emergency in the Maritimes please call**
  1-800-565-1633 (outside metro Halifax area) or 426-6030 (within Halifax metro area)
  Environment Canada, Maritimes, 24 hours: (902) 426-6200
- **To report an Environmental Emergency in Newfoundland please call**
  1-800-563-2444 (outside the St.John's area) or 772-2083 (within the St.John's area)
  Environment Canada, Newfoundland, 24 hours: (709) 772-7745

Wastewater (Sewage) Related Websites

ALTERNATIVE WASTEWATER SYSTEMS

Bio Green: Secondary Wastewater Treatment – Domestic wastewater treatment for individual homes and small communities. http://www.enviroaccess.ca/fiches_3/FA3-01-96a.html

The Composting Toilet – an ecologically responsible solution
http://www.deatech.com/natural/waste/toilet.html

Environment Probe – Study on Troubled Waters: Municipal Wastewater Pollution on the Atlantic Coast. http://www.nextcity.com/EnvironmentProbe/pubs/Ev536.htm

Halifax Harbour Solutions Project - a look into the new advanced, primary level treatment plants around the harbour. http://www.region.halifax.ns.ca/harboursol/index.html

Municipality of the County of Kings: Department of Engineering & Public Works – Water and wastewater operations. The department operates and maintains 16 sewage collection systems comprised of eight-wastewater treatment plants (6 aerated lagoons, 1 activated sludge process and 1 sequential batch reactor process). http://www.county.kings.ns.ca/epw/water.htm

Natural Life Magazine #50 - Learning a Lesson from Nature – An innovative system uses living organisms to treat waste in rural Nova Scotia…and transforms a community at the same time. http://www.life.ca/nl/50/livingsystem.html

News Release: Wagmatcook First Nation to get water and sewage project (Amherst)
http://www.ainc-inac.gc.ca/nr/prs/m-a1996/aug22.html

Peat Filter wastewater treatment system: Pilot project in Forteau (QLF) – The first peat filter wastewater treatment system in Labrador.
http://members.shaw.ca/hermessenger/peatland.html

River Hebert Marsh - "Combining Wildlife with Water Treatment." – The march was constructed to demonstrate an innovative and cost-effective way to provide tertiary treatment for effluent discharged from the River Hebert sewage lagoons.
For more information on the monitoring & evaluation of River Hebert Marsh contact: Al Hanson of the Canadian Wildlife Services at (506) 364-5061 or al.hanson@ec.gc.ca
http://www.ns.ec.gc.ca/community/storyducks.html

Stormwater Treatment – This site explores the need for stormwater treatment.
http://www.chebucto.ns.ca/Science/SWCS/SWT/swt.html

Sydney Environmental Resources – This site is designed to answer commonly asked questions about the fluidized bed combustion units and to give residents of Cape Breton and others a clear understanding of the major features and capabilities of the technology. http://www.serl-ns.com/glad.html

GENERAL INFORMATION ON WASTEWATER (SEWAGE)

A Guide to the Public Management of private septic systems – Cornell University, Cornell Local Government Program, " A Guide to the College's Century of Commitment to New York's Local Governments". http://www.cardi.cornell.edu/clgp/septics_index.cfm

A Homeowner's Guide to Septic Systems – Water wells and septic systems are the primary exchange point of groundwater on rural properties. When properly constructed and maintained, these devices can ensure the groundwater at the homestead remains safe.
http://www.fordcounty.net/zone/homeown.html

Camp Green, Canada! – Camp Green, Canada! Supports non-toxic biological products that effectively control odors from holding tanks without causing harm to you or the environment.
http://www.tians.org/campgreencanada/campgreencanada.htm

ENVIRO-ACCESS: Environmental Technologies Fact Sheets – Factsheets displaying various commercial environmental technologies available through Quebec and Atlantic Canada Enterprises. http://www.enviroaccess.ca/eng/faxsheet.html#wastewater

ESCHERICHIA COLI 0157:H7
Fact sheet on E. coli. http://www.who.org/inf-fs/en/fact125.html

Helping America's small communities solve their wastewater problems – Small Flows Newsletter, National Small Flows Clearinghouse, West Virginia University
http://www.nsfc.wvu.edu

National Onsite Wastewater Recycling Association, Inc. – To provide leadership & promote the onsite wastewater treatment & recycling industry through education, training, communication and quality tools to support excellence in performance. http://www.nowra.org

Nature's Pollution Fighter: Duckweed aids wastewater treatment systems – News article By Gary D. Robertson: The Associated Press.
http://www.canoe.ca/CNEWSScience0003/27_duckweed.html

NC State University Document: On-site wastewater treatment websites
http://www.ces.ncsu.edu/onslow/staff/drashash/enved/sepsites.html

Onsite/Decentralized Wastewater systems – EPA developed the website to provide tools to help communities investigate and implement an outside/decentralized management program.
http://www.epa.gov/OW-OWM.html/decent

On-site Wastewater Research Program - The center for water resource studies has provided this database as a useful starting point for information on particular aspects of wastewater disposal. http://www.dal.ca/~cwrs/cwrs/onsite/cwrstab.htm

ORENCO Systems Inc. – Company that designs and manufactures advanced onsite (decentralized) wastewater technologies for individual properties and small communities – properties that are not hooked up to centralized sewers or whose sewers are failing or at capacity.
http://www.wastewatertechnologies.com

Reusing Treated Wastewater in Domestic Housing: the Toronto Healthy House Project - The Toronto Healthy House Project came about as a result of a nationwide competition initiated by Canada Mortgage and Housing Corporation to design healthy and environmentally sensitive dwellings suitable for the next century with respect to wastewater. The guidelines emphasized reducing or eliminating water consumption and therefore waste water production, minimizing the

use of chlorine or other additives and using passive and low energy methods wherever possible. The "Toronto House" was the only urban entry that proposed on-site wastewater treatment. http://mha-net.org/msb/html/papers-n/palo01/wastewa.htm

Septic Information Website – This site has it all; from inspecting, designing and maintaining residential septic systems, to drainfield problems and pumping schedules. http://www.inspect-ny.com/septbook.htm

Septic Pumpers Association of Nova Scotia – Currently working in conjunction with Environment Canada, to govern septic pumping in the Maritime Provinces. They are working towards unanimity among all septic pumpers and are also working towards designating, legal septic dumping sites. http://spans1.tripod.com/index.htm

Septic Tank Page - This site includes lots of articles about on-site sewage disposal http://swopnet.com/geo_wastewater_2000/Septic_Tanks.html

The Healthy House System – The healthy house system is a water treatment system, capable of reclaiming water from sewage. http://healthyhousesystem.com

Toiletology 101 – Site which explores typical problems with toilets, and how to fix them. http://www.toiletology.com/index.shtml

University of Minnesota Septic System Owner's Guide
http://www.extension.umn.edu/distribution/naturalresources/DD6583.html#01

- **Residential Cluster Development: Fact Sheet Series** – Designed to assist local community leaders, city officials, developers and homeowners in creating viable residential cluster developments and management structures within their communities. http://www.extension.umn.edu/distribution/naturalresources/DD7059.html

U.S. Environmental Protection Agency (USEPA) – This site has a lot of good information about their regulatory aspects and projects. http://www.epa.gov/ebtpages/wastes.html

Water Quality & Health Council – Its mission is to promote science based practices and policies to enhance water quality and health by advising industry, health professionals, policy makers and the public. The focus of this site is wastewater. http://waterandhealth.org/wastewater/index.html#news

Water Quality and Waste Management Glossary – A fact sheet, which provides definitions of commonly, used water quality and waste management terms. http://www.bae.ncsu.edu/bae/programs/extension/publicat/wqwm/ebae144_90.html

Water Recycling – This site explores alternative wastewater treatments. It's primary focus, ecological wastewater recycling systems. http://www.waterrecycling.com/index.htm

Wastewater Technology Center (WTC) – The WTC develops and assesses novel wastewater technologies and advances the MAP family of technologies that offer high potential for reducing waste and greenhouse gas emissions. http://www.ec.gc.ca/etad/English/wtc_e.htm

Web Guide: A Septic Tank System for Sewage Treatment – This site, contains information on a septic tank system for sewage treatment. http://www.ianr.unl.edu/pubs/wastemgt/g448.htm

TECHNOLOGY – "WHAT'S OUT THERE?"

Environment Canada (Municipal Wastewater Treatment Plant Optimization Series #1) Assessment of the application of ultraviolet disinfecting technology in Ontario.
http://www.on.ec.gc.ca/glimr/data/sewage-treat-fact/fact1.html

OCETA (Ontario Center for Environmental Technology Advancement) – Environmental Technology Profiles - solar aquatic system: Greenhouse-based wastewater treatment explored.
http://www.oceta.on.ca/profiles/catalogue.html#BM03

North Bay-Mattawa Conservation Authority: Sewage Disposal System Program – The program's goal is to help assure water quality and public health as part of the watershed management strategy. http://www.nbmca.on.ca/SEPTIC.htm

LISTSERVES/ MAILING LISTS

Water Resources Discussion Lists
http://www.nal.usda.gov/wqic/lists.html

Water Related Newsletters and discussion groups
http://www.waterinfo.org/lstsrv.html

ORGANIZATIONS

National and International

Canadian Environmental Assessment Agency – CEAA promotes environmental assessment as a planning tool to protect and sustain a healthy environment.
Email: Info@ceaa.gc.ca
http://www.ceaa.gc.ca

Canadian Water Network – CWN was formed to identify and address critical issues facing our nation in connection with the provisions of clean water and to provide the foundation for development of a national vision for Canada's role in the effective management and use of our water resources.

- University of Waterloo
  200 University Avenue West
  Waterloo, Ontario N2L 3G1
  pH: 519-888-4567 ext.: 6367 Fax: 519-883-7574
  http://www.cwn-rce.net/e-welcome.htm

Environmental Choice Program (Environmentally friendly household products)
Terra-Choice Environmental Services INC.

- Environmental Choice Program
  C/o Terra Choice Environmental Services Inc.
  2781 Lancaster Road, Suite 400

Ottawa, ON K1B 1A7
Toll free: 1-800-478-0399 Fax: (613) 247-2228
E-mail: ecoinfo@terrachoice.ca
http://www.environmentalchoice.com http://www.cmcs.org

Greenpeace Canada – Greenpeace is an independently funded organization that works to protect the environment. They challenge the government and industry to halt harmful practices by negotiating solution, conducting scientific research introducing clean alternatives, carrying out peaceful acts of civil disobedience and engaging the public

- 250 Dundas St. West, Suite 605
  Toronto, ON M5T 2Z5
  pH: 416-597-8408 or 1-800-320-7183
  Fax: 416-597-8422
  http://www.greenpeace.ca

Ocean Voice International – A marine environmental organization dedicated to the harmony of humankind, the sea and its life.

- P.O. Box 37026 pH: (613) 721-4541
  3332 McCartney Rd Fax: (613) 721-4562
  Ottawa, ON K1V 0W0
  http://www.ovi.ca

Sierra Legal Defence Fund – The Sierra Legal Defence Fund is a charitable organization that provides free legal services to environmental groups across Canada.

- 30 St. Patrick Street, Suite 900 pH: (416) 368-7533
  Toronto, ON M5T 3A3 Fax: (416) 363-2746
  Email: sldfon@sierralegal.org http://www.sierralegal.org

The Ocean Conservancy – The Ocean Conservancy combines science-based advocacy, grassroots activism, litigation, education and outreach to find lasting solutions to issues affecting our oceans and all marine life.

- pH: (202) 429-5609
  http://www.cmc-ocean.org

U.S. Environmental Protection Agency
Office of Wetlands, Oceans and Watersheds – OWOW promotes a watershed approach to manage, protect and restore the water resources and aquatic ecosystems of our marine and fresh waters.

- U.S. Environmental Protection Agency
  Office of Wetlands, Oceans and Watersheds (4501T)
  1200 Pennsylvania Ave, N.W.
  Washington, D.C 20460
  pH: 202-566-1300
  Email: ow-owow-internet-comments@epa.gov http://www.epa.gov/owow/org.html

Provincial

New Brunswick

The Huntsman Marine Science Centre – Through Research and Education, the HMSC will enhance knowledge and provide the leadership necessary to achieve sustainable development and effective management of the coastal environment.

- Huntsman Marine Science Centre
  1 Lower Campus road
  St-Andrews, New Brunswick E5B 2L7
  Email: huntsman@huntsmanmarine.ca http://www.huntsmanmarine.ca

New Brunswick Environmental Network – NBEN is a network of 76 non-profit citizen's environmental groups from across the province of New Brunswick.

- 167 Creek Rd
  Waterford, NB E4E 4L7
  pH: (506) 433-6101 Fax: (505) 433-6111
  Email: nben@nbnet.nb.ca http://www.web.net/nben/renben.htm

Newfoundland and Labrador

ACAP Humber Arm Environmental Association Inc.: WATER: A Limited Natural Resource – Newfoundland and Labrador communities have been struggling with water shortages for years but also consume an average of 450 liters of water per person a day, significantly higher than the national average of 350 liters. ACAP implemented a pilot water conservation project in the community of Massey Drive, where project objectives included: the installation of retrofit kits by 75% of homeowners, 75% community participation in a public education event and the reduction of water consumption by 20%. http://www.cornet.nf.ca/web/acapha

ACAP Saint John: Sustainable Storm Water Management – Urban run-off can be a big problem in developed areas where the ground has become impermeable, for example, as a result of paving a parking lot. Two new developments – a shopping mall and a large store, will increase the amount of impermeable surfaces in the floodplain. ACAP Saint John developed and demonstrated best management practices for treating the run-off from these new developments. This would include using grassy swales, constructed wetlands, and vegetated retention ponds. Six hundred meters of Cold Brook, a tributary of Marsh Creek, was also rehabilitated to improve habitat on land and in the creek.

- Atlantic Coastal Action Program Saint John
  76 Germain St, P.O. Box 6878, Station A
  New Brunswick, E2L 4S3
  http://user.fundy.net/acapsj

Nova Scotia

Bluenose Atlantic Coastal Action Program – BACAP facilitate the necessary action to protect and enhance the environmental quality of the watershed and coastal areas, in full collaboration with and in support of a healthy and prosperous community.

- Brooke Cook
  Executive Director, Bluenose ACAP
  PO Box 10
  Mahone Bay, NS B0J 2E0
  pH: (902) 624-9888 Fax: (902) 624-9818
  Email: bacap@auracom.com http://netshop.net/~bacap

Bras d'Or Stewardship Society – Is a membership organization of committed individuals to promote accountable and responsible stewardship of the Bras d'Or Lake and its watershed.

- P.O. Box 158 pH: (902) 756-3264
  Baddeck, NS B0E 1B0 Fax: (902) 295-2057
  Email: stewardship@baddeck.com http://www.baddeck.com/bss/flyer1.html

Chezzetcook Harbour Revitalization Association – CHRA is a group of community minded people who are trying to improve environmental conditions around the Chezzetcook Inlet. In the process, they hope to revitalize the clam industry and provide new opportunities for people in the area.
Email: chra@eudoramail.com http://www.dns.ca/CHRA

Clean Annapolis River Project Society – Partners for Healthy Rural Water is sponsored by the Clean Annapolis River Project, a non-profit environmental group that fosters the conservation, restoration and sustainable use of the freshwater and marine ecosystem of the Annapolis Watershed. The objective of the project is to produce an information package for homeowners and farmers on the public health risks of water contamination by sewage. The resource materials, which will examine the risks from both direct and indirect contact with contaminated water, will be developed in partnership with public health professionals in the Nova Scotia Department of Health and the Western Regional Health Board.

- Stephen Hawboldt – Clean Annapolis River Project
  P.O. Box 395
  Annapolis Royal, NS B0S 1A0
  pH: 902-532-7533 Fax: 902-678-1253
  Email: shawbold@fox.nstn.ca http://www.dal.ca/~stanet/database/anapriv.html

Clean Nova Scotia – This site contains information on sources of marine debris and beach litter.

- 126 Portland Street pH: 902-420-3474
  Dartmouth, Nova Scotia, B2Y 1H8 Fax: 902-424-5334
  Email: cns@clean.ns.ca Outside Metro Halifax: 1-800-665-5377
  http://www.clean.ns.ca/sea-chests/types.html

Eco-Efficiency Center (EEC) – EEC is an educational and environmental management organization for small and medium sized businesses in Nova Scotia. EEC is also an initiative to which HRM contributes as part of the HRM source control effort, to minimize the input of toxic or noxious materials into the HRM sewer system. EEC will also direct attention to pollution prevention and source reduction issues.
For more information contact;

- Peggy Crawford Manager
  pH: (902) 461-6704 Fax: (902) 461-6703
  Email: kpcrawfo@dal.ca http://www.dal.ca/eco-burnside

Halifax County Watershed Advisory Board
http://chebucto.ca/Science/SWCS/WAB/hhcwab.html

Maritime Fisherman's Union of Nova Scotia Clean Oceans Committee
RR#1 Barney's River
Nova Scotia B0K 1A0
(unable to open website)

Soil and Water Conservation Society of Metro Halifax – Uses living organisms or their responses to determine the quality of the many lakes in the Halifax regional municipality. Includes environment and scientific info, activities, society background and contact details.
http://www.chebucto.ns.ca/Science/SWCS/SWCS.html

WINS Rural Water Quality Project – WINS put together a series of water quality workshops across Nova Scotia. Promoting well water awareness. Two fact sheets were prepared for the workshops. The first contains information on well water concerns found throughout Nova Scotia and the second discusses laboratory testing for water quality.

- P.O. Box 550 (35 Tower Road) pH: 902-893-6520
  Truro, Nova Scotia, B2N 5E3 Fax: 902-893-6393
  Email: wins@gov.ns.ca http://www.gov.ns.ca/nsaf/wi/projects/water.htm

Prince Edward Island

Bedeque Bay Environmental Management Association – Non-profit, charitable organization that focuses on sustainable, community-based ecosystem management that integrates economic growth and environmental conservation.

- 370 Water Street
  Summerside, PEI C1N 1C4
  pH: (902) 436-7090 if busy call (902) 436-1930
  Email: bbema@pei.aibn.com http://www.peisland.com/bbema

Environmental Coalition of P.E.I – ECOPEI is an island community environmental action group dedicated to understanding and improving the environment. There work centers on education, advocacy and action.

- 126 Richmond St pH: (902) 566-4696
  Charlottetown, PEI, C1A 1H9 Fax: (902) 566-4037
  Email: ecopei@itas.net http://www3.itas.net/~ecopei/land.html

Hunter- Clyde Watershed Group – H-CWG was formed to preserve and restore the health of the river so that it can continue to enhance and support the communities and the current farming and fishing industries.

- RR#2 Hunter River, PEI C0A 1N0
  Email: andrewl@baselinegeo.com http://www.isn.net/hcwg

PEI Eco net de l'I-P-É – This network provides information and resources to groups that care about our environment.
Email: peien@isn.net http://www.isn.net/~network/water.html

Southeast Environmental Association (S.E.A) – S.E.A. focus on the marine environment, the bays and estuaries and the watersheds that flow into them.
http://www.seapei.ca email: sea@seapei.ca

Trout River Environmental Committee Ltd.: Environmental concerns of Trout River
RR#1 Hunter River, PEI C0A 1N0
pH: (902) 621-0637

First Nations

Aboriginal Canada Portal
http://aboriginalcanada.gc.ca/abdt/interface/interface2.nsf/engdoc/0.html

Confederacyof Mainland Mi'kmaq (CMM)
Environmental Services
Environmental Services are provided by the CMM Tribal organization representing 6 Mi'kmaq communities in Nova Scotia. Part of this service includes provision of advice on water quality testing and drinking water safety to Mi'kmaq communities.

- PO Box 1590
  Truro Nova Scotia, B2N 5V3
  Ph#: (902) 895-6385
  Fax: (902) 893-1520
  E-mail: environment@cmmns.com http://www.cmmns.com

Eskasoni Fish and Wildlife Commission (EFWC) & the Unama'ki Institute of Natural Resources (UINR)
EFWC and Health Canada operate the Recreational Water Sampling program that tests drinking and recreatrional water for fecal coliform bacteria.
Part of the mission of UINR is to promote and contribute to the understanding and protection of the Bras d'Or Lakes marine system and its watershed. UINR is involved in an ongoing co-operative venture with Environment Canada to monitor the fecal coliform content in the Bras d'Or Lakes.

- 4123 Shore Road
  PO Box 8097
  Eskasoni, Nova Scotia, B1W 1C2
  Ph#: (902) 379-2024
  E-mail: pla_mu@fox.nstn.ca http://www.tec.ednet.ns.ca/~wildlife

Union of Nova Scotia Indians (UNSI)
Environmental Technicical Services
Environmental technical services are provided by the UNSI Tribal Organization representing 7 Mi'kmaq communities in Nova Scotia. Part of this service includes provision of advice on water quality testing and drinking water safety to Mi'kmaq communities.

- PO Box 961
  Sydney, Nova Scotia, B1P 6J4
  Ph#: (902) 539-4107
  Fax: (902) 564-2137
  E-mail: environment@unsi.ns.ca http://www.unsi.ns.ca/environment.html

GOVERNMENT

Federal

Canadian Coast Guard
Marine Spills Response System contact
Director, Environmental Response
Rescue and Environmental Response Directorate
Canadian Coast Guard
200 Kent Street

5th Floor, Centennial Towers
Ottawa, ON K1A 0E6

Canadian Council of Ministers of the Environment (CCME)
Canadian Council of Ministers of the Environment
123 Main St, Suite 360
Winnipeg, MB R3C 1A3
pH: (204) 948-2090 Fax: (202) 948-2125
E-mail: info@ccme.ca http://www.ccme.ca/ccme
For Further Technical and Scientific information on the CCME environmental quality guidelines for water (protection of aquatic life and agricultural water uses), sediment, soil and tissue residue, contact Environment Canada.

Department of Fisheries and Oceans Maritimes Regions
P.O. Box 1035
Dartmouth, Nova Scotia B2Y 4T3
Email: info@dfo-mpo.gc.ca
1-800-782-3058

Environment Canada
Shellfish water quality protection program contact
Amar Menon pH: 902-426-9003
Environment Canada
45 Alderney Drive, Queen Square, 4th Floor
Dartmouth, Nova Scotia B2Y 2N6
Email: amar.menon@ec.gc.ca

Fisheries and Oceans Canada
Fish Habitat Program contact
Referrals Coordinator
867 Lakeshore Road
Burlington, ON L7R 4A6
pH: (905) 336-4595 Fax: (905) 336-6285
Email: info@dfo-mpo.gc.ca Website: http://www.dfo-mpo.gc.ca

Health Canada

First Nations and Inuit Health Branch

Drinking Water Safety Program

Through this program Health Canada works in partnership with First Nations on water quality sampling, monitoring, training, technical advice and local capacity-building regarding drinking water safety. It is meant to complement Indian and Northern Affairs Canada's program for upgrading infrastructure related to water and sewage treatment on-reserve.

- Health Canada
  Atlantic Regional Office
  1505 Barrington St.
  Halifax, Nova Scotia, B3J 3Y6
  Ph#: (902) 426-0960
  Fax: (902) 426-8675
  E-mail: len_o'neil@hc-sc.gc.ca
  http://www.hc-sc.gc.ca/fnihb/cp/annualreview/drinking_water_safety.htm

Health Canada

Guidelines for Canadian Drinking water quality and the guidelines for Canadian recreational water quality

Health Canada
Water Quality and Microbiology Division
Safe Environments Programme
Tunney's Pasture, L.P. 1912A
Ottawa, ON K1A 0K9
pH: (613) 952-2594 Fax: (613) 952- 2574
E-mail: water_eau@hc-sc.gc.ca http://www.hc-sc.gc.ca/waterquality
For more information on the **Guidelines for Canadian Drinking Water Quality** or to obtain the name of your provincial representative on the Federal-Provincial Subcommittee on Drinking water, contact:

- **Drinking Water Section - Environment Health Directorate - Health Canada**
  Jeanne Mance Building
  Tunney's Pasture, A.L. 1912A
  Ottawa, ON K1A 0K9
  pH: (613) 952-2594 E-mail: water_eau@hc-sc.gc.ca

Indian and Northern Affairs Canada

Infrastructure and Facilities Maintenance Program

Community Infrastructure and Housing for First Nations

This program offers funding and advice to First Nations on design, construction, training, operation and maintenance activities for water and wastewater systems.

- Indian and Inuit Affairs
  PO Box 160
  40 Havelock St.
  Amherst, Nova Scotia, B4A 3Z3
  Ph#: (902) 661-6200
  Fax: (902) 661-6237
  http://www.ainc-inac.gc.ca/ps/hsg/cih/index_e.html

National Water Issues Branch

Ecosystems and Environmental Resources Directorate
Environment Conservation Service
Environment Canada
351 St.Joseph Blvd, 4-PVM
Hull, Quebec K1A 0H3
Attention: *Freshwater Website*
pH: (819) 953-6161 Fax: (819) 994-0237
Email: H20@ec.gc.ca

Marine Debris in Canada
pH: (819) 953-1550 Fax: (819) 953-0461
Email: ceqg-rcqe@ec.gc.ca http://www.ec.gc.ca/marine/debris/ENG/contact.htm

Water Survey of Canada
Atmospheric Monitoring and Water Survey Directorate
Atmospheric Environment Service
Environment Canada
Ottawa, ON K1A 0H3
pH: (613) 992-7121 Fax: (613) 992- 4288

Provincial

New Brunswick

Department of Environment and Local Government
Marysville Place
20 McGloin St.
Fredericton, NB E3A 5T8
pH: (506) 453-2690 Fax: (506) 457- 4991
http://www.gnb.ca/elg-egl

Newfoundland and Labrador

Department of Environment and Labour
Water Resources Management Division
P.O. Box 8700
St. John's, NF A1B 4J6
pH: (709) 729-2563 Fax: (709) 729-0320
http://www.gov.nf.ca/env

Environment Canada Water Education in the City of St.John's, NF
For more info contact:
Geraldine King
City of St-John's
Department of Engineering and Planning
pH: (709) 576-8613 Fax: (709) 576-8625

Nova Scotia

Agriculture and Fisheries
P.O. Box 2223
Halifax, NS B3J 3C4
pH: (902) 424-4560 Fax: (902) 424-4671

Environmental Health Program (regional)
The Environmental Health Program's role, is to protect and improve the well-being of the people of Canada by assessing and managing the risks to health associated with the natural and technological environments.

- Health Protection Branch
  C/o Sharon Chard
  P.O. Box 1060
  Dartmouth, Nova Scotia B2Y 3Z7
  Email: www.hc-sc.gc.ca/ehp/ehd/comment.htm

For General Atlantic Region information about Environment Canada, contact our regional headquarters;
Environment Canada
45 Alderney Dr
Dartmouth, Nova Scotia B2Y 2N6
Email: 15threception@ec.gc.ca
pH: (902) 426-7231 Fax: (902) 426-6348

Nova Scotia Department of Environment and Labour
Resource Management and Environmental Protection Division
Ecosystem and Risk Management Branch
P.O. Box 2107
Halifax, NS B3J 3B7
pH: (902)-424-2553 Fax: (902) 424-0503
http://www.gov.ns.ca/enla

National First Nations Environmental Contaminants Program (Regional)
First Nations and Inuit Health Branch
First Nations and Inuit Health Branch works with First Nations and Inuit people to improve and maintain the health of aboriginal peoples.

- Mr. Al Garman, Regional Director, Atlantic Region
  First Nations and Inuit Health Branch
  Health Canada
  Maritime Center, Suite 1816
  1505 Barrington Street
  Halifax, NS B3J 3Y6 pH: (902) 426-6201
  Email: Al_Garman@hc-sc.gc.ca Fax: (902) 426-8675

Prince Edward Island

Department of Fisheries, Aquaculture and Environment
P.O. Box 2000
Charlottetown, PE C1A 7N8
pH: (902) 368-5000 Fax: (902) 368- 5830
http://www.gov.pe.ca/fae/index.asp

Municipal

For further information on water treatment and wastewater management in your area, please contact the Public Works and Engineering departments.

Charlottetown

Charlottetown Municipal Website
http://www.city.charlottetown.pe.ca **Email:** city@city.charlottetown.pe.ca

Fredericton

Engineering and Public Works Department – Water and Sewer Division
City Hall
397 Queen Street
Fredericton, New Brunswick
(506) 460-2038; (506) 460-2088
Email: publicwork@city.fredericton.nb.ca

Halifax

HRM Waste Water Treatment
Email: reidr@region.halifax.ns.ca

John Sibbald
HRM Pollution Prevention Coordinator
(902) 490-5527
Email: sibbalj@region.halifax.ns.cs

Harbour Solutions Project Office
PO Box 1749
Halifax, NS B3J 3A5
(902) 490-4756
Cheryl Kimber (Administrative Assistant) or Mike Labrecque, PEng (Project Director) Email: harbsol@region.halifax.ns.ca

Moncton

Engineering and Public Works
pH: (506) 877-1040 Fax: (506) 877-1060
Email: info@westmorlandalbert.com

St.John's

Engineering: Regional Water System
Water Treatment and Pumping
Sewage Pumping Stations

Mr. Ivan Warren, P.Eng
Manager of Water Supply Systems
pH: (709) 745-1870 Fax: (709) 745-0935